

Applicant(s): Myeong-cheol Kim, et al.
U.S. Serial No.: 09/731,385

REMARKS

Claims 1-8, 10 and 15 are rejected under 35 U.S.C. §102(b) as being anticipated by Chang, et al. (U.S. Patent Number 5,817,562). Claims 9 and 11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chang, et al. Claim 14 is rejected under 35 U.S.C. §103(a) as being unpatentable over Chang, et al. in view of Huang (U.S. Patent Number 5,899,722). In view of the amendments to the claims and the following remarks, the rejections are respectfully traversed, and reconsideration of the rejections is requested.

The applicants thank the Examiner for his helpful comments in response to the applicants' previous arguments. The claims are amended in accordance with the Examiner's remarks such that it is believed that the amended claims are allowable over the cited references.

Specifically, the claims have been amended to recite that the planar top surface of the claimed first insulation layer has a planar top surface throughout the entire distance between the adjacent conductive patterns. It is believed that this added language clarifies the patentable distinctions between the claimed invention and the cited references.

Chang, et al. fail to teach or suggest an insulation layer having a planar top surface which extends throughout the entire distance between adjacent conductive patterns. Specifically, the layer 24 of Chang, et al. conforms to the approximate right-angle shape on the Chang, et al. layers 16, 14 and 22. It does not have a planar top surface that extends throughout the entire distance between adjacent conductive patterns or between a second conductive layer and conductive patterns. Accordingly, Chang, et al. neither teach nor suggest the invention claimed by the applicants. Therefore, reconsideration of the rejections of claims 1-8, 10 and 15 under 35 U.S.C. §102(b) and of claims 9 and 11 under 35 U.S.C. §103(a) based on Chang, et al. is respectfully requested.

The Huang patent also fails to teach or suggest the invention set forth in the amended claims. Huang neither teaches nor suggests the claimed first and second insulation layers, wherein the second insulation layer has a spacer shape that is formed over the first insulation layer, the first and second insulation layers being formed of different insulating materials. The

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Huang patent also fails to teach or suggest the applicants' claimed first insulation layer filling gaps between adjacent conductive patterns having a planar top surface extending throughout the entire distance between adjacent conductive patterns. Since neither Chang, et al. nor Huang teach or suggest the invention set forth in the amended claims, their combination also fails to provide such teaching or suggestion. Since Chang, et al. and Huang, taken alone or in combination, fail to teach or suggest the invention set forth in the amended claims, it is believed that the claims are allowable over Chang, et al. and Huang. Accordingly, reconsideration of the rejection of claim 14 under 35 U.S.C. §103(a) based on Chang, et al. and Huang is respectfully requested.

Attached hereto is a marked-up version of the changes made to the application by the current Amendment. The attached pages are captioned "Version with Markings to Show Changes Made."

In view of the foregoing remarks, it is believed that all claims pending in the application are in condition for allowance, and such allowance is respectfully solicited. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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Version with Markings to Show Changes Made

In the Claims

Claim 1 has been amended as follows:

1. (Three Times Amended) A semiconductor device having a self-aligned contact, the semiconductor device comprising:

a plurality of conductive patterns formed to be adjacent to one another by sequentially stacking and patterning a first conductive layer and a mask layer on a particular underlying layer;

a first insulation layer filling a gap between adjacent conductive patterns, the first insulation layer being formed of a first insulating material;

a second insulation layer having a spacer shape, the second insulation layer formed at the sides of each conductive pattern and over the first insulation layer, the second insulation layer being formed of a second insulating material different from the first insulating material; and

a second conductive layer filling a contact hole which is self-aligned with respect to the second insulation layer between adjacent conductive patterns, the contact hole passing through the first insulation layer, the first insulation layer [having a planar top surface] extending between adjacent conductive patterns and between the second conductive layer and the conductive patterns and having a planar top surface throughout the entire distance between adjacent conductive patterns.

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